

# Z88 EPROM

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## Club Addresses

All articles for **Z88 EPROM** and any other correspondence (**except** Software Library) should be sent to:

**Z88 USERS' CLUB**  
**68 WELLINGTON STREET**  
**LONG EATON**  
**NOTTINGHAM**  
**NG10 4NG**

All requests for software from the Club Software Library, (**but not** special offers), items for inclusion in the Library, and EPROMs for erasure should be sent to:

**THE SOFTWARE LIBRARY**  
**Z88 USERS' CLUB**  
**3/8 JENNER ROAD**  
**GUILDFORD**  
**SURREY**  
**GU1 3PL**

Please note that the **Library** address is the one to use when sending for a list of Library programs - this list is **not** available from the main Club address. Be sure to enclose 50p for the list.

**ALWAYS** include your Membership Number with any correspondence. This is not just to be awkward - now the Club is growing it can be very time-consuming searching the database for a member's number. Your number is printed on the address label of each issue of **Z88 EPROM**. Please be sure to enclose a stamped-addressed envelope with anything needing a reply.

## Editorial

Christmas may come but once a year, but by golly it seems to come around very fast these days! Perhaps it's as I'm getting older! First, and most important this month, is to wish each and every one of you a very Merry Christmas, and all good wishes for the new year. Next year is of course also a new decade, so perhaps I ought to wish you a Happy New Decade too! The advent of 1990 makes me realise how time flies - it will be ten years since I bought my first home computer (a Sinclair ZX-80 kit) for the princely sum of £79.95. This wonder of modern technology had 1k of RAM, a 4k ROM, and a display which flickered each time a key was pressed! How things have progressed.

1990 also means that the Z88 will soon be three years old - not old in human terms, but almost a senior citizen of the computer scene. Indications are that the Z88 is selling with more vigour than ever before, so despite its limitations, the message must be getting through to people that the Z88 is still pretty unique in terms of its facilities in such a small, light package.

Having said that, I feel that it is overdue for a facelift of some sort. At the top of my shopping list would be more RAM in the basic machine - the circuit board was designed to accomodate a larger chip, so the cost would be negligible. I feel that the basic machine with 128k of RAM would be viewed as being more useful, without the need to upgrade by buying RAM cards. There can be few things more disappointing than buying a new computer, only to find within hours of first using it that to make it of any real use, you must spend yet more money upgrading the RAM capacity.

Another area of the Z88 market which I feel CCL should enter is the disk drive. When the Z88 was launched, the EPROM archiving system was revolutionary, and I for one expected the cost of the EPROM cards to drop dramatically within a year or so. That did not happen, and the Z88 has been saddled with something of a white elephant. While the EPROMs are great for permanent storage on the move, the limited capacity and extreme cost make the system a non-starter. This is why the various Link programs are so popular, and why there are already two disk drives and a tape storage system on the market.

Why should CCL be interested when the market is already being serviced? Simply because the existing products all have their drawbacks, either in terms of storage capacity, cost or reliability. A low cost (about £200) disk

system, with the capacity and comparable software to the RangerDisk, would do two things:

It would satisfy a demand among many Z88 users for reliable, fast low-cost storage;

and it would make the Z88 system that much more credible to a potential buyer.

By the time you read, this the Club will be registered for VAT. This will not affect subscription rates, which are Zero Rated for VAT, but it will affect the price of binders and spare parts. To this end you will find within this issue, advertisements for binders and spares with the new, adjusted prices, and I would be grateful if you could order on the basis of these new prices with immediate effect.

One final note - don't forget that there is no **Z88 EPROM** in January. The next issue will be sent out about mid-February.

## Newslines

**DABS PRESS** have released their first book for the Z88. Called "Z88: A Dabhand Guide" it has been written by Trinity Concepts, the group of companies responsible for the development of the Z88 software. The book is a complete guide to the in-built software, and contains a lot of previously unpublished material. Price is £14.95, and should be available from Z88 dealers. DABS PRESS can be contacted by telephone on 061 766 8423, fax on 061 766 8425, or post at 5 Victoria Lane, Whitefield, Manchester, M25 6AL.

**CAMBRIDGE COMPUTER** have rationalised the prices across the Z88 product range. Previously some prices were quoted including VAT, and others excluding VAT, which CCL felt was confusing. All prices are now quoted excluding VAT, and the prices have been adjusted to make the VAT-exclusive figures more sensible. This has meant price increases of a few pence on some items, minor price cuts on others, and some items remaining the same price.

## Helpline

If you have a technical query, write to one of our Helpliners listed below. Please note that you should include a stamped addressed envelope or sufficient return postage for your reply.

**CLI Files** - Contact Michael Hey by post only at:  
18 Woodside Road, Sandiacre, Nottingham. NG10 5GP

**Z88 to Amstrad PCW Link** - Please write in the first instance to:  
Mr A West, 16 Southway, Burgess Hill, Sussex. RH15 9ST.

**zBASE, CLI and all Wordmongers products except TX and Comms software** - Contact Jason Crook (ex of Wordmongers) at 4 Salisbury Close, Princes Risborough, Bucks. HP17 0JF. Telephone 08444 7075. I will also write to order in zBASE.

**zBASE** - Help on commands and programming. I can accept info/programs on paper. EPROM, zTape cassettes or IBM disk.  
Contact Robin Jarvis, 27 Gloucester Road, Waterlooville, Hants. PO7 7BJ.

**Z88 to Amstrad CPC Link** - Contact Duncan W. Kennedy at  
32 Otterston Grove, Dalgety Bay, Fife. KY11 5PA.

Can anyone offer Helpline for BASIC programming, and printer set ups?

## Members' Letters

Chris Carter (0688)

I hope this is in time for the latest edition of the magazine. I have just received a copy of Z88 Magic from Rakewell and I can report that the book itself is magic! Easy to read, much better than the original manual but complimentary to it also, it covers all the basics including the pitfalls, but can also teach an old sailor like myself a thing or two. There is a section on Z88 BASIC but it is reasonably brief and does not take up a disproportionate amount of the book. There are some very clever examples to try at the end of the book, obviously well tried and tested on Z88 training courses!

To tell you the truth I had been thinking of writing a book myself. A book was screaming out to be written, but I am glad I didn't bother because it must have been very difficult and I wouldn't have made half such a good job.

Future writers can now write more advanced texts and take the Rakewell book as read.

**(I too have a copy of Rakewell's book, and although I am only part way through reading it, I would agree with Chris' comments. I hope to have full reviews of three books - Z88 Magic, Z88 Power Computing and Z88 Computing - in the February issue. - Roy)**

On a completely different note I wanted to keep a name and addresses file that could be sorted in PipeDream and printed out on special FiloFax paper. The way I did it using my Atari ST and PD ST Writer is as follows:

- 1) Create the original as 3 fields of 50 characters wide in PipeDream with sorting on column 1 only.
- 2) Read into the ST using the Music Suite file transfer program.
- 3) For security save to disk as usual.
- 4) Select fields ABC, select down, select disk and the file will be saved in WP readable format.
- 5) Load into ST Writer
- 6) On ST Writer the first line should read:

```
^T8 ^B6 ^Y77 ^L10 ^R60 ^S0 ^G2
```

(Top and bottom margins, page length, left and right margins , line spacing and font [Compressed])

You get 8 addresses to the page this way. No doubt someone can work out how to do it entirely on the Z88, and now I have Rakewell's book, I might even try it myself!

## Queries, Hints and Tips

**David Meadway (0495).**

Douglas de Lacey's (1276) problem with <>W and width zero was covered in an earlier issue of Z88 Eprom. To "recover" the column use <>W from any other column, specify any visible width then cursor down, change "Specify Column" to "Y" and add the column identifier. I have found invisible columns useful for holding intermediate results for complicated spreadsheets.

**(Thanks also to David Robinson (3087) for the same answer to Douglas' query. - Roy)**

Some technical queries:

1. Is it possible to expand the built in memory up to the maximum 512K? I would find this useful for storing semi-permanent data, such as address books and Basic programs, leaving one of the RAM slots free for variable data, such as Pipe-Dream documents, and two slots free for Eproms.

2. It appears that, like myself, many Z88 users are experiencing problems with their keyboards. Is there any simple routine for cleaning or maintaining these - other than buying a new keyboard? Likewise for maintaining the contacts in Eproms. I have problems in persuading my Z88 in recognising these, without much jiggling, re-inserting, etc. This makes me extremely loth to change Eproms once they are in place.

3. I have a Dixons Parallel interface. This saved my Z88 after it was knocked off a desk by breaking all four ribbon cable wires where these are soldered to the PCB. Unfortunately there is nothing to indicate which wire should be resoldered where. Can any reader help?

4. Finally, would it be possible to obtain or make a PSU for the Z88 which would at the same time trickle-charge five NICADS; and switch to these when the mains supply was removed?

Regarding the Z88 Eprom magazine, may I suggest that the various lists - Library programs, Helplines, etc, plus an index, are collected and published every so often in an extra issue - a Z88 Annual perhaps?

**(What do other members think of the idea of a Z88 Annual? - Roy)**

**Richard Hill (2445)**

I use a Star LC-10 Multifont printer with the panel correctly set up in accordance with the instructions accompanying the Z88 parallel cable; ie 9600 baud rate, Xon/Xoff set to No, parity set to None. I usually have no problem at all with the output from the printer. But just occasionally, on first putting the printer on-line for printing after initial power up, I get garbage and find that the panel rates have reset themselves somehow to 19200. After correction to the proper rate, printing proceeds with no further problem. Any ideas, please?

## Z88 to Amstrad CPC 6128 File Transfer

by Duncan W. Kennedy (0883)

In the November edition of Z88 EPROM J Drozd asks about the use of an Amstrad CPC 6128 for archiving and editing Z88 files. I have been doing this for over a year now and there is no problem once you have a cable and an RS232 interface for the Amstrad. There is no need to purchase any other software although life is a little easier using one of the Z88 library programs.

It is a pity that the Amstrad does not have an RS232 port as this is the one expense - £40 to £50. I chose the Amstrad/Pace one which comes with the Comstar software built in on ROM.

I made up the cable myself - 9 pin D plug, 25 pin D socket, and cable with at least 5 cores - Tandy can supply it though you may have to make do with 10-core flat cable. Connections are fairly standard:

9-Pin	25-Pin
3	2
2	3
4	5
7	7
5&8joined	20

You could probably use a serial printer cable with a gender-bender to change plug to socket at the 25-pin end, but this would be more costly.

Do not connect up with the 6128 switched on.

At the 6128 end |HT calls "Honeyterm" from which you set the baud rate to 2400 - this seems fairly error free. [Control]3 then calls the Transfer menus. Set to ASCII (see later) and "Receive" and then enter the filename - do no more at this stage.

On the Z88 set the baud rate with [J]S to 2400 send and receive (remember to reset it before trying to use your printer - I never do and spend a lot of time kicking the printer before it dawns!). [J]X then takes you into Import-Export and follow the prompts. After entering the filename, do not press enter yet.



It is vital to press [Return] on the 6128 first and then wait a couple of seconds while the disc light is on (loading file name). Then press [Enter] on the Z88 and sit back. The 6128 seems to hang on completion of the file load - return to the Z88, press [J]V and <>Z to send the file complete code.

The Library program "Z88COM" is a boon and permits use of XMODEM available through Honeyterm on the 6128. Much the same procedure is used, but the prompts are better and the "transfer complete" action is automatic. Remember that "PHONE.LOG" has to be in RAM even if it is not needed. I have tried 9600 baud but while XMODEM repeats to correct errors the time taken is not worth the additional transfer speed. One big asset of "Z88COM" is that it transfers the "£" sign correctly for Prottext - the first method alters all other codes correctly but leaves a 4 digit code for "£" which has to be corrected by hand. Xon/Xoff should be Off when sending from the 6128 to the Z88.

All this works in either direction and the files save and load automatically to and from disc. The AMSDOS version of Prottext on both disc and ROM works well - there would seem to be no reason why the CP/M version should not work but I would do the first few transfers in AMSDOS, changing into CP/M for Prottext after transfer. The Pace RS232 should recognise CP/M but others may not.

Save files in Plain Text, and on the 6128 and Prottext use the "Prog" mode before "PRINTF" to save files in ASCII. For safety delete the "Printer On" code first - once per session - by using "SP" and "@[return][return]" when you reach the second menu.

If you wish to edit the Prottext make sure you have both the Z88 and Prottext rulers set to the same Tab and line length or you will get some very funny results on formatting.

You can archive spreadsheets by transfer in ordinary (not ASCII) format - they do not mean a lot in Prottext - but they will reload into the Z88.

The Pace RS232 will recognise an AMSDOS Drive B - 3" or 3.5" - but not any of the big formats - you will need to use the 3" drive as an intermediary. I use Prottext to do a quick check and then re-save onto an 800k B Drive running under Rodos or Romdos.

Can anyone suggest a modification to Z88COM so that it will return to the main menu on completion? My copy stops at the Terminal and I have to go back to the menu each time to get back into the main program.

If I can help anyone on Amstrad links please write - see Helpline for details.

# Hardware Review:

## Rangerdisk Disk Drive

Hot on the heels of the two disk systems based on the Tandy portable drive, which were reviewed a couple of issues back, this new product from Ranger Computers Ltd is in a different league completely, both in terms of price and the facilities it offers.

Ranger Computers is perhaps a name new to many of you - they have in fact been associated with the Z88 for some time, and they are the CCL-appointed corporate distributor for the Z88. This means that they mainly sell to large companies in the corporate market. The Rangerdisk is a product aimed at this corporate market, and the price reflects that. I don't for one minute expect many of you to rush out and spend £450 on this product, which would represent more than twice the cost of your Z88, but the drive is nonetheless worth reviewing, because the software interface is excellent, and this could easily form the basis of a cheaper, non-corporate product which would appeal to many Z88 users.

### Physical

The RangerDisk is roughly the same size as the Tandy portable drive at 185mm x 146mm x 67mm, but because it is housed in a very robust metal case weighs in heavier at around 1.6 Kg. The drive is a 3.5" IBM compatible 1 Megabyte mechanism, which formats to 720k. On the front panel there is the disc slot, a black rocker-type on/off switch, a green power-on LED, and a red LED which lights when the drive is being accessed. On the rear panel is a socket for the Z88 connecting lead, and a battery compartment cover secured with two rather old fashioned knurled thumb-screws. Remove this cover and out pops a six-cell holder for alkaline AA batteries - just like those in your Z88. Battery life is quoted as 1.5 hours of continuous operation, which means very little since normal disc operation is far from continuous! In reality, the batteries seemed to give quite long service, indeed the original set supplied were still ok after intermittent use over the month-long review period. If battery power does prove too expensive for you, or if you simply don't need the portability that the batteries give, there is also a mains adapter supplied, which plugs into a socket on the rear panel.

The plug is of the same type used for the Z88, and a caution is included in the manual warning the user that the mains adapter must not be used with the Z88, or damage will result. I would have been happier if the disc drive power plug and socket were of a different type to that used on the Z88.

## Software

Apart from the drive and mains adapter, there is of course a connecting lead for the Z88, and finally the obligatory 32k ROM containing the DiskFiler software. After connecting up the drive, and installing the software in the normal way, DiskFiler is started using [J]ZD. The display then shows three windows which take up the full width of the Z88 screen. On the left is a conventional Commands window, listing the DiskFiler commands. In the centre is the Z88 Directory window, which shows the contents of the current device/directory selected on the Z88. On the right is the Disk Directory window, which immediately shows a catalogue of the disk in the drive.

All of these windows are fully interactive in that the cursor bar can be used to select either commands, Z88 files or disk files to work with. Files are marked in the same way as in the Z88 Filer using ENTER, which marks the file with the familiar arrow symbol. One useful extension to this is the use of <>ENTER, which highlights all the files in a window - very useful for making a complete backup of the Z88 contents, or conversely for loading the entire contents of a disk back into the Z88, either with just one command.

The range of commands available, with their respective short-cut codes, are shown below:

Catalogue Disk	<>DD
Catalogue Z88	<>CF
Select Z88 Device	<>SV
Select Z88 Directory	<>SI
Save to Disk	<>DS
Fetch from Disk	<>DF
Change Disk	<>DC
Erase Disk File	<>DE
Rename Disk File	<>DR
Format Disk	<>FM
View Disk File	<>DV

I think most of these commands are self-explanatory. Change Disk should be used after swapping the disk in the drive - this reads in the directory information from the disk, and prevents the software from getting confused by a case where it has the wrong directory for the disk in the drive. View Disk File simply allows the contents of a disk file to be displayed on the Z88 screen - useful if you want to check whether a particular file is actually the one you want, before you load it into RAM.

## Performance

In pure speed terms, the RangerDisk saved and loaded files in roughly the same time as taken by the Disc-88 drive reviewed in 3.4.14. This is not really suprising since any disc drive is restricted to using the Z88 serial port, and both these drives work at 9600 baud.

One feature unique to this product is that the disk format is IBM compatible, to MSDOS 2.1. This means that you can save files from the Z88, and take the disk and directly read the files on any IBM compatible with a 3.5" disk drive. Just as important is the reverse link - PC disks can be read into the Z88. This means that PC-Link is redundant, and could be especially useful if you need to produce IBM compatible disk in a portable environment. There is one main restriction on this compatibility at the moment, in that the software does not support directories on the PC. This feature is being worked on at the moment, and will appear in a future software upgrade.

## Conclusion

This is certainly the most impressive disk system so far for the Z88. The software is very well implemented, and I especially like the feature of being able to mark blocks of files easily. The drive itself is physically very robust, and the drive capacity of 720k is three and a half times that of the systems based around the Tandy Portable disk drive. Without doubt the main advantage for many people will be the fact that the disks produced are IBM compatible.

The one big disadvantage with this system is the price. At £450, the RangerDisk is more than twice the cost of the basic Z88, and is indeed the same price as some low-cost PC compatibles!

The system is obviously engineered for the corporate market and the price has been set to account for the very high cost of customer support in this

market. I would like to see a low-cost version of the same product; perhaps with the same software but a cheaper, less robust drive. If this could be made to sell for £200, it would prove very popular.

Ranger Computers can be contacted by 'phone on 0604 791064, fax on 0604 791114, Telex 94017588 TBIC G, or by mail at The Innovation Centre, Boughton Green Road, Northampton. NN2 7AH.

## ZX Spectrum - Z88 ImpExp

by Dennis Groning (1080)

After the appearance of my name and address in Z88 EPROM I received 5 letters in one week. Since the actual program is very short and I am not interested in having a lot of extra work in copying cassettes or sending information, I decided to send the listing for publication.

Z88-IMPEXP can also send datafiles created by other programs (Tasword 3). The Imp-Export program of the Z88 and this program can also receive serial printer output from other computers. (Spectrum Tasword 2 to Z88.) If you wish, you can enter only the working parts of the program, lines 1010, 1020 and 1170 to 4060, but keep the listing as a reference.

### The Program

```
1000 REM Z88-IMPEXP Version 5; 1989 08 01
      Z88 Users' Club Member No 1080
      Dennis Gröning
      John Bryntessons väg 2
      S-662 03 Svanskog
      Sweden
      Distribute freely but don't sell
      If you find the program of value
      a banknote would be appreciated.
1010 CLOSE #3
1020 CLOSE #4
1030 CLS
1040 PRINT "Z88-IMPEXP is used to save Z88-
          files on Sinclair Spectrum micro
          drivecartridges."
1050 PRINT "Hardware: Sinclair ZX Spectrum
          with ZX Interface 1 and ZX Micro
          drive. Serial cable with a 9-pin
          D-socket, male in both ends."
1060 PRINT "Connected as follows: 2-2, 3-3,
          4-4, 5-5, 7-7, 8-9, 9-8."
```

```

1070 PRINT  "'Panel settings:Transmit/Receive
           baud rate-9600.Parity-None.
           Xon/Xoff-No.'"
1080 PRINT  "'A 70k file is transfered in
           5 minutes.'"
1090 PRINT  "'The files are sent via the Z88
           Import/Export program and stored
           on microdrive with any name.'"
1100 PRINT  "'It is advisable to use the Z88
           name because the files are
           stored in Spectrum datafiles
           complete with their Z88 name
           with which they will be sent
           back to the Z88.'"
1110 PRINT  "'To save keypressing, you can
           store several Z88 files in one
           Spectrum file. You can also use
           wildcards when sending files
           from the Z88.'"
1120 PRINT  "'If you get 'microdrive full'
           during transfer, three things
           will happen.'"
           "'1 You can continue this program
           as below.'"
           "'2 After sending this Spectrum-
           file back to the Z88 the program
           will wait for the nonexistent
           'end of file' so you have to
           continue as below.'"
           "'3 The last received file will be
           sent back to the Z88 incomplete
           but overwriting a file with the
           same name.'"
1130 PRINT  "'If something goes wrong during
           transfer you should press
           CAPS SHIFT and BREAK then
           RUN and ENTER.'"
1140 PRINT  "'Before sending a file, make the
           receiving computer ready first.'"
1150 PRINT  "'scroll?'"
1160 PAUSE 0
1170 CLS : CAT 1
2000 FORMAT "b";9600
2010 OPEN #3:"b"
2020 PRINT #0:AT 0,0;"R)eceive file or S)end file?"
2030 LET k$=INKEY$
2040 IF k$<>"r" AND k$<>"s" THEN GO TO 2030
2050 INPUT "Filename? ";n$
2060 IF k$="r" THEN GO TO 4000
3000 PRINT "s ";n$
3010 MOVE "m";1;n$ TO #3
3020 CLOSE #3
3030 GO TO 2000

```

```
4000 PRINT "r ";n$
4010 PRINT #0;AT 0,0;"When finished receiving. Press:
      CAPS/BREAK then CONT and ENTER"
4020 OPEN #4;"m":1;n$
4030 MOVE #3 TO #4
4040 CLOSE #3
4050 CLOSE #4
4060 GO TO 2000
9998 SAVE *"m":1;"Z88-IMPEXP" LINE 1
9999 VERIFY *"m":1;"Z88-IMPEXP"
```

## Z88-ST Link Version 3

by Ian Braby (0123)

At last - after a long wait and several version 2's - it's here! The Z88-ST link you've all been waiting for!

This program has undergone many changes from the first version which I tore to pieces in the pages of **Z88 EPROM** last year (Vol.3 No.2 pg10). Shortly after my review I received V2.00 which fixed some faults and introduced others.

Having spoken to The Music Suite about the faults I'd found they promised another, then another and another - such that I never really had an opportunity to put pen to paper to update my original review. It would hardly have been any more complimentary, so it is perhaps as well.

V2.00 became V2.1, which became V2.2 and then V2.2a. All were variations on a theme originally begun with V1

- a cosmetic face-lift but largely the same under the surface.

V3.00 has been completely re-written in C, for portability (the Amiga version uses the same source code) instead of FastBASIC. The front panel has been cleaned up and (and I claim a little credit here) it is not **solely** dependant upon the mouse for input - there are keyboard short cuts, too! There is also access to any desk accessories you have resident through a **Desk** drop-down menu.

The objectives of the program are given in the (still very sparse but adequate) documentation as:

1. to save Z88 files onto Atari ST disks - this being more economical than using EPROMs.
2. to allow Z88 and ST files to be transferred in an editable form between the machines, whilst at the same time retaining formatting and highlights.

## Starting Up

A Z88 serial cable and a gender-bender are required to join the two machines together - or The Music Suite will provide you with a suitable cable on request.

The Z88 baud rate should be (ideally) set to 9600 and **XOn/Xoff** should be set to "Yes". On booting the ST program (and there are two versions - one in English, the other selectable between English, German and French) you should ensure that the baud rate in the selection panel matches that which you've set on the Z88 and then you're ready to begin.

## In use

The main use to which the software is likely to be put is that of Z88 file archive and four of the five "buttons" along the top of the screen deal with this aspect of the program. They are:

### **Receive and Transmit, Load and Save.**

It works like this:

**To send a Z88 file to the ST:** Click on **Receive** (or press ALT-R) and then, from the Imp-Export pop-down press "S" to send, followed by the filename. Once the program has transferred (and the ST tells you when it is receiving and when it had finished) it must be saved onto disk. This, logically, means clicking on the **Save** button (or ALT-S - which raises an interesting point, viz. I usually have an alternative to the GEM file selector loaded (I use STSelect) but the standard GEM selector appears on pressing ALT-S. STSelect appears if the mouse is used to select **Save** and, indeed, appears in response to all other calls, be they mouse or keyboard!) and then selecting the final resting place for your program which can, if necessary, be renamed to prevent clashes (a common problem if saving a lot of files from a sub-directory although I've just learned that this is to be tidied up so that renaming won't be so necessary!).



**To send a Z88 file back to the Z88:** First **Load** the required program from disk and then **Transmit** it back to the Z88, on which you have pressed "R" to receive in Imp-Export. You have a choice, then, as to whether you wish to rename the file when it arrives (by entering a filename) or to accept the original filename (by just pressing ENTER).

All of the above works smoothly and well. It's certainly much faster than V1 and, I would venture to suggest, faster also than **PCLink** (but then what isn't?) although it does require you to be entering things on both keyboards which can become a little confusing!

### Other functions:

The fifth button on the top row, right in the middle, is labelled **Printer Intercept**. This used to be a gateway to a Pandora's box of missed opportunities, but it's very much better now!

The principle behind the function is to trap files which have been printed rather than sent to the ST - i.e. you use <>PO from within PipeDream rather than Imp-Export. This means that, with a copy of your own printer driver dumped onto the STLink disk, you can retain all your page formats and highlights in a document you started on the train, but finish it off at home with **1st Word(+)**. The alternative is to strip out all the highlights whilst still retaining the formatting and save it as an ASCII file.

I would admit that I would have liked to have been able to print the file directly to disk, retaining all the highlights, too - but not this time around!

The above assumes that, having intercepted the printer output from the Z88 you chose to save the resultant file to disk. There are other alternatives - you can print the received file to the screen or to a printer. This latter operation is also catered for, more directly, by the **Parallel Print** option which, in addition to allowing the ST to act as a printer server for the Z88 and perform a serial-to-parallel function, can also allow the printer, in association with the Z88's Terminal, to be used as a typewriter - why, I'm not sure! I think you'd be far better to use PipeDream and then print it!

It is now possible to perform the PipeDream-1st Word trick in reverse by loading a 1st Word document (or an ASCII one) and then transmitting it to the Z88. Unlike the PipeDream-1st Word conversion, 1st Word file formats are retained intact - the header and footer information appears in the <>Options page! When sending a PipeDream file to 1st Word, all margins are set to zero to keep the headers and footers intact!

# TK

# COMPUTERWARE

the Z88stockist

Tel: 0303-81-2801

<b>RAM Packs:</b>	32k	£20.00
	128k	£50.00
	512k	£200.00
<b>EPROM Packs:</b>	32k	£20.00
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<b>COMPUTER:</b>	Z88	£230.00
<b>ADAPTERS:</b>	- Amstrad PCW (C-Port Software)	£30.00
	- Archimedes	£35.00
	- BBC	£25.00
	- Macintosh	£60.00
	- Mains	£10.00
	- PC 2	£35.00
	- QL (BT connector Ser 1)	£25.00
	- QL ('D' connector Ser 1)	£27.00
<b>SUNDRY:</b>	Cambridge Topper	£8.00
	Carry Case	£10.00
	Centronics Interface	£30.00
	Disc Drive 3.5" battery powered with Interface	£250.00
	EPROM Eraser	£40.00
	Modem (Cambridge)	£170.00
	Modem Cable	£12.00
	RS232 Lead	£10.00

PHONE FOR DETAILS OF LATEST PRODUCTS

<b>GAMES:</b>	Scrazzble	Wordmongers	£20.00
	Withered Toad	Wordmongers	£25.00
<b>TERMINAL:</b>	Z-Term - General purpose	Wordmongers	£52.50
<b>GENERAL:</b>	PipeDream - Archimedes	Colton	£114.00
	PipeDream - PC (3.5"/5.25"d)	Colton	£114.00
	PipeDream - PC Spell Checker	Colton	£50.00
	SuperChip - ZTerm + ZTape	Wordmongers	£75.00
	SuperChip1 - ZTerm, ZTape, Thinkz		£110.00
	SuperChip2	Wordmongers	100.00
	SuperChip3	Wordmongers	130.00
	SuperChip4	Wordmongers	150.00
	Spellmaster	Computer Concepts	£59.00
	Spellmaster (USA version)	Computer Concepts	£59.00
	T-Touch	S & S Computer	£40.00
	zBASE	Wordmongers	£69.00
	Z-Tape	Wordmongers	£52.50
	Thinkz	Wordmongers	£52.50
	<b>BOOKS:</b>	PipeDream	Dabs
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Z88 Real Power Computing		F R Flaig	£12.00
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The final bell, so to speak, is the option of loading a PipeDream database dump file and then resaving it as an ST database file. Currently, **Superbase** and **Data Manager Professional** formats are supported and details of the process are clear and concise - including hints to avoid some potential problems encountered with **Superbase**.

One problem it currently can't overcome, however, is due to the fact that the routine strips out all of PipeDream's format information, rendering the file ASCII, and introduces a comma as the field separator for import into **Superbase**. This means that if you have a comma in a field it is taken as the field separator and you can, consequently, lose some data.

Since it is possible to pre-define the field separator within **Superbase** it would seem sensible to change the one currently employed or make it user definable.

## Conclusion

This is how the program should have started life! It didn't, but the original has certainly grown and matured.

The program is much smoother and less prone to problems than previous incarnations. All of the things I railed against in my original review and shared with The Music Suite during the variety of Version 2's have, to a greater or lesser degree, been fixed!

I was going to finish by saying that I wish for only one addition but, having just spoken with the company I don't even get the satisfaction of knit-picking! My wish was to have been to allow Batch File handling and I hear that a new version incorporating that will be shortly available!

So, I'll close now and say I'll update you all next time with this latest STLink.

Z88-STLink is available from:

The Music Suite Ltd  
Glanyrafon House  
Cenarth  
NEWCASTLE EMLYN  
Dyfed  
SA38 9JN

Price: Software £19.95 (£15 for Club Members)

Cable £12.95 (£10)

P.S. At the same time as receiving V3.00 of the STLink I received a copy of V1.00 of the Amiga link. Whilst it is substantially similar and the comments probably equally apply, I would like an Amiga owner to test it and review it for me. So, the first person to write to me at the Software Library address with a stamped, addressed envelope will get the chance!

## LIBRARY CHARGES

There are, currently, no charges for the supply of programs from the Library. This will continue provided some basic rules apply!

1. If you want your EPROM/disk/etc. returned you must send sufficient postage and return label or envelope. This applies if you are submitting a program to the Library as well as removing some.
2. For Overseas members the minimum number of International Reply Paid coupons (IRC's) is 2 for Europe and 4 for the rest of the world.
3. Charges do apply for EPROM erasure (Cash: 50p, 5FF or 2DM or 2 IRC's).
4. A charge is also levied for a copy of the Library Listing (as for EPROM erasure).

Ian Braby MRPharmS

Software Librarian

## LIBRARY UPDATE

This month there is a bunch of additions to the Library! The quality of the programs' submitted is getting better and better - keep it up chaps!

Also, this month, an announcement which should cheer a great many people! We now have a sub-librarian to cope with all of you who request Library programs on BBC disks!

Chris Rogers (0246) has stepped into the breach to fulfil this need. What must be absolutely clear, however, is that he **will only be supplying Library programs in BBC format!**

**Do not:**

- send him library contributions; they must continue to come to me and should, therefore, be on EPROM or some disk format which you know I can handle.
- send him EPROM's for erasure; this is a facility offered only by myself.
- send him EPROM's for Library programs, or any other media apart from BBC disks.
- forget to send him return labels and postage. He, like me, is doing this on a voluntary basis and has no cash float to pay your postage!

Chris has a BBC-B with AcornDFS (1770 or 1871 - or so he tells me!) with a 5.25" 80- or 40-track disk drive. His address is:

Span Carr Farm  
Matlock Road  
Ashover  
CHESTERFIELD  
Derbyshire  
S46 0LJ

and he's waiting, expectantly, for your requests!

Now, this month's updates:

For a start-off - those requesting programs on PC disks, please say whether you'd prefer PCLink or Serial versions (especially in view of program Z093!) as I have now upgraded to a PCSpeed board for my ST which means I can use PCLink at a reasonable pace! It also means that my ST is, in fact, three computers in one!

**Z084-5 Two programs by Alan Fleming (1717)**

**Z084 Phone Logger (15k)** -will keep a record (which can be loaded into PipeDream) of your calls, their duration and their cost!

A=documentation

B=program

**Z085 Logger (10.5k)** - keeps a log, automatically updated, of your activities at the keyboard. First appeared in **Micro User**.

A=documentation

B=program

**Z086-7 Two programs by John Crouchley (0986)**

- Z086 Z88Code (16k)      A BASIC program to disassemble Z80 code from a file and present the results on the screen (which can then be captured again for inclusion into another BASIC program!).  
A=documentation  
B=Z88Code  
C=datafile  
D=Z056 made compatible with Z88Code
- Z087 Solitaire (6k) -      a program which will solve the peg board game of solitaire.  
A=documentation  
B=program  
C=demo solution (1)  
D=demo solution (20)
- Z088 Phone.bas (1k) by Edward Peters (2230) - a simple little call-timer and cost calculator which can also handle overseas calls (currently set for Sweden!).
- Z089 Bingo! (2.5k) by Clive Jones (0772) - a Bingo caller and ticket printer.  
A=Bingo.bas - the caller  
B=Ticket.bas - the printer!
- Z090 BBC ARCHIVE SUITE - typed from Micro User by T.F.Sneddon (2791)  
- a Z88-BBC linker, printer and archiver.  
**Only available on BBC disk from the BBC sub-librarian.**
- Z091 UDG-MAGIC (11.5k) by Paul Stevens (2918) - another UDG designer, but this one offers character animation.  
A=documentation  
B=program
- Z092 Regression Analysis (2k) by Jose Figueira (1387) - a PipeDream application.
- Z093 PC ARCHIVE SUITE - by Simon Phipps (0221). An excellent suite of programs to help you dispense with PCLink! Uses a batch receive format similar to that I've used, but with a lot more control. Only available on PC disk and comes as a self-unpacking ARC file.

**Z094-5 Two more programs by John Crouchley (0986)**

- Z094 LIFE3 (8k)            Unlike Z009 this is a non-interactive version of this classic program. However, it is largely written in M/C and creates it's own 256\*64 pixel map. Minimum 128k expansion required.  
A=documentation  
B=program
- Z095 HEXDMP (1k)        Outputs any file to the serial port in Intel hex format suitable for most PROM blowers.  
A=documentation  
B=program
- Z097 TIMEMATH (5.5k) by David Thomas (1124) - a program used in a recording studio to sequence tracks and give cumulative running times.  
A=documentation  
B=program

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## Small Ads and Swapshop

This service is FREE to members. Please keep the length of ads to a minimum, and send them to the main Club Address. Your entry will then be put in the next available issue of **Z88 EPROM**. Please bear in mind that the magazine is prepared some time in advance, and therefore you may receive an issue before the one containing your entry.

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FOR PRIVATE COLLECTION - ANY OLD SINCLAIR PRODUCTS UP TO ZX-80. HAS ANYONE GOT A BLACK WATCH? WRITE WITH DETAILS TO ROY AT THE CLUB ADDRESS ON PAGE 2.

**NEXT ISSUE OUT MID-FEBRUARY**

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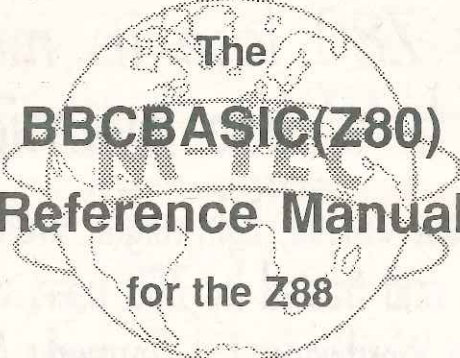
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## "Z88 REAL POWER COMPUTING"

Is a 178 page, comb bound (flat folding), book, which explains in simple non technical language, simple methods and uses for the Z88 Cambridge Computer. None of the methods or uses described, briefly, as follows, involve the need for any extra software other than that supplied as part of the Z88 Computer, or included as part of the book. The only "program," as such detailed in the book to achieve the following applications, involves less than a hundred characters.

TWO separate METHODS OF MERGING documents (ie letters/reports etc) with your database. The first of these will enable you to achieve a global merge (the same letter/report to all your contacts). The second method allows you to browse through your database sending letters to some of your contacts, but not others. With this second method you can in fact have a SELECTION OF DIFFERENT LETTERS (suitable for accounts chasers), and you can also simply add in individual postscripts for each letter, or embed an individual piece of information in the text (in letters such as:- "I expect to be in your area next week, and expect to call on you on . . . . Please phone myself or Mary at the office if this is not convenient, suggesting a different time." ; you may want to include "Tuesday at 9.30 am" etc).

Address LABELS (and product labels) can be produced with ease using the simple methods described in the book.

A simple method of formatting your display of database into a SCREEN DISPLAY is described, which allows you to use the whole screen to display a record. This obviates the problem of database elements trailing to either side of the screen, and the clutter of other lines / records of information. Records can be called on screen by name or number. Or you can pull all on to the screen in sequence backwards or forwards.

Detailed application examples include LANGUAGE CONVERSION (illustrating text manipulation), CURRENCY CONVERSION (allows conversion of any to any), TRIP CALCULATOR (estimate time of journey, fuel consumption, fuel remaining, and cost, etc), DIET CALCULATOR (estimate calories and costs), INVOICE GENERATOR (also useful for QUOTATIONS).

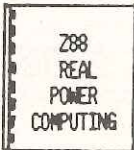
Other useful information contained in the book "Z88 Real Power Computing" includes an overview of software, with "get you going" advice on Basic programming, Diary, Pipedream (databasing and spreadsheeting), CLI, Filer, Print Editor, Calculator, Etc. And a review of add on products, further sources of information. Much general advice, including problem avoidance, and tips on the rudiments of typing/ keyboarding.

£9.95 Inc P & P

*Readers Comments:- T.T of Glasgow, writes "....very interesting and enlightening... valuable explanation and description of the many ways of the Z88" D.T of Dyfed writes "Much better than the other books I have bought on the Z88. As someone who is much more interested in using computers than the understanding of the way they work I found your book very practical and at the right pitch for my needs" A technical advisor for a computer manufacturer, in Cambridge, said in a phone conversation that the book Z88 Real Power Computing, is "full of good ideas and useful information."*

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**IMPORTANT NOTICE:** By opening your Z88 you will invalidate any remaining warranty on your machine. Neither the Z88 Users' Club nor Cambridge Computer Ltd will accept any responsibility for any damage, howsoever caused, to either your Z88 or its peripherals, caused in the course of fitting any spare parts.